

CLAIMS

1. A portable electromagnetic induction heating method for carrying an induction current in a conductor, making said conductor generate heat by Joule's heat, and heating adhesive by the heat generating conductor, the method comprising the steps of:

connecting in series a plurality of coil bodies to form a heating induction coil generating a magnetic force line supplied to said conductor by a high-frequency current from a high-frequency generation circuit; and

changing a center distance of said plurality of coil bodies or reversing at least any one of said coils upside down to change a polarity and a position of the magnetic force lines formed by said heating induction coil.

2. A portable electromagnetic induction heating method for carrying an induction current in a conductive sheet to whose surface adhesive is applied, making said sheet to generate heat by Joule's heat, and heating the adhesive by the heat generating sheet, the method comprising the steps of:

forming a resistance barrier portion constituted by an incision, a perforation, or the like in said sheet in which the induction current is generated by a magnetic force line of a heating induction coil to which a high-frequency current is supplied from a high-frequency generation circuit; and

changing the number of eddies and flow of an eddy current generated in said sheet to adjust a heat generation distribution.

3. A portable electromagnetic induction heating method for carrying an induction current in a conductor, making said conductor generate heat by Joule's heat, and heating adhesive by the heat generating conductor, the method comprising the steps of:

supplying a high-frequency current from a high-frequency generation circuit, to a heating induction coil generating a magnetic force line supplied to said conductor; and

controlling a current carrying time to said heating induction coil based on a detection signal from a temperature sensor detecting temperature and temperature variation of said adhesive.

4. A portable electromagnetic induction heating device for carrying an induction current in a conductor, making said conductor generate heat by Joule's heat, and heating adhesive by the heat generating conductor, the device comprising:

a power-supply unit for supplying electric power;

a heating head provided with a high-frequency generation circuit for converting a current supplied from said power-supply unit to a high-frequency current; and

a heating induction coil to which a current from the high frequency generation circuit is supplied and which generates an induction current in said conductor,

wherein said heating induction coil has a facing surface including a flat surface or curved surface facing said conductor, and is formed by a coil body with a shape of a single or plurality of circles, ovals, or polygons to be capable of surface-heating a complex three-dimensional curved surface.

5. The portable electromagnetic induction heating device according to claim 4, wherein efficiency of generating an eddy current is improved by winding said coil body around a magnetic core with a tip surface facing said conductor and by forming a magnetic circuit concentrating a facing magnetic force line and converging a magnetic force line in a space opposite to the conductor.

6. The portable electromagnetic induction heating device according to claim 5, wherein a region of the generated eddy current is adjusted by connecting windings of a plurality of said magnetic cores at respective rear ends thereof and by changing a polarity and a position of a magnetic force line formed by said heating induction coil.